

Appl. No. 10/618,294
Reply to Office Action of August 12, 2005

REMARKS/ARGUMENTS

The Examiner is maintaining the rejections that claims 1-3, 5-6 and 8 are unpatentable over '823 (Cleary et al) in view of '173 (Leenders et al). With respect to claim 4, the Examiner further relies on Figov '050 with respect to the distance from the UV light to the recording substance.

The Examiner has stated on page 5, lines 11 to 15 in Response to Arguments of the office action dated in August 12, 2005 that:

"Applicant argued that the Leenders et al. didn't disclose or teaches that the surface temperature of the UV ray emitting light source is not, more than 60°C, which is not persuasive. In column: 11, line: 7-9, clearly teach that the ink receiving material is preferably subjected to a uniform heat treatment in the temperature range of 40°C to 160°C, which covers the applicant's present claim limitation."

Applicants respectfully disagree with above Examiner's statement. As previously pointed out, the description of column: 11, line: 5-10; line: 17-25 of '173 does not disclose that a surface temperature of the UV ray-emitting light source is not

Appl. No. 10/618,294
Reply to Office Action of August 12, 2005

more than 60°C. The descriptions merely disclose about heating
the ink receiving material.

In order to accomplish the conditions of the exposing step in the present invention, it is necessary that the light source be installed near the ink jet head. The immediate irradiation of the ink is what reduces or prevents the smudging. In order to accomplish this as a practical matter, it is necessary to mount the irradiation source near the ink jet head. However, nozzle clogging occurs (in the prior art) due to the heat of the light source (see end of page 2 for discussion). It is for that reason that the present invention requires that the UV ray-emitting light source have a surface temperature not more than 60°C. This allows the source to be mounted near the ink jet head and enable the exposing conditions as claimed.

Furthermore, claim 1 (amended) clarifies the condition of the exposing step. It is submitted that, from these conditions it is obvious for one of ordinary skill in the art at the time of the invention to recognize that the temperature of ink receiving material must be nearly room temperature not the 40°C to 160°C described in the art, when exposing on the condition defined in the amended claim 1.

Appl. No. 10/618,294
Reply to Office Action of August 12, 2005

In other words, it would have been impossible to one of ordinary skill in the art at the time of the invention to reach the an embodiment of claim 1 by combining the '823 with '173 because '173 lacks the important structure that the surface temperature of the UV ray-emitting light source is not more than 60°C.

Therefore, claim 1 (amended) (and claims dependent thereon) is not obvious over a combination of '823 with '173.

In rejecting the subject matter of claim 4 (now in claim 1), the Examiner relies on Figov to teach that the smear resistance, smudged resistance printing image requires a distance between a surface of the UV emitting light source and the recording substrate of approximately 10 cm. This rejection appears to be a hindsight reconstruction without reason in the art. The 10 cm distance refers, not to the step of curing of the ink, but rather the curing of a varnish applied over the ink. The smudge and smear resistant of printed image that the Examiner relies on to render the combination obvious is not related to the distance between the UV ray-emitting light source and the recording substance but rather to the varnish which is used as a coating over the recording substance. At column 4, last several lines of

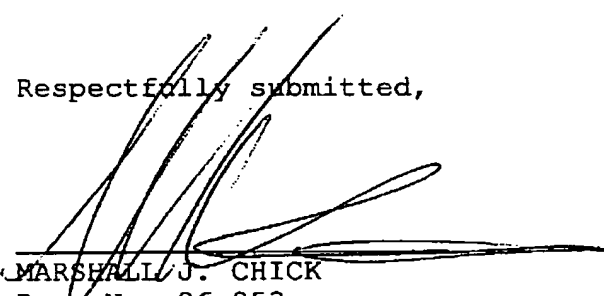
Appl. No. 10/618,294
Reply to Office Action of August 12, 2005

Figov, it is reported that the varnish is applied with a rubber roller and that the image was "not smudged in any way by the lacquer and was then ultra violet light cured for 30 seconds...at a distance of approximately 10 cm." It is therefore submitted that if one wanted to modify Cleary so as to have a smudge resistance and smear resistance printed image, one would apply lacquer and cure the lacquer. As reported in the second paragraph on page 5, after curing, the print was rubbed hard with a wet finger but did not smudge. The cured lacquer prevents the smudging here. The distance between the UV light and the coating is not relevant to the issue of smear resistance, just that the lacquer be cured. It is therefore submitted that one would not look to Figov in order to determine the distance between the UV light and the ink of Cleary or the present invention.

In view of the above, it is submitted that the present invention is not shown or suggested by the prior art. Withdrawal of the rejections and allowance of the application are respectfully requested.

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Respectfully submitted,



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